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August 11, 2023

Project/File: 195602317

**Via Email and Overnight Mail**  
**Tim Carr, Senior Planner**  
Land Use Regulation Commission  
22 State House Station  
Augusta, Maine 04333-0022

Dear Tim,

**Reference: Pickett Mountain Mine Rezone Petition, ZP779A**

On behalf of Wolfden Mt. Chase, LLC (“Wolfden”), this letter provides responses to the Land Use Planning Commission (LUPC) comments in its July 13, 2023 letter to Wolfden pursuant to the Application for Zone Change for the Pickett Mountain Mine, ZP779A, referred to herein as the “Project,” and review of technical consultant and agency comments provided with that letter.

**LUPC Comments**

- 1) *Provide information on the length of time that open-air blasting to provide access for underground workings is expected to last.*

During portal development, we anticipate that there will be three (3) open air blasts over a period of one week. There will be no more than one blast per day. After one week, it is expected that the portal walls will be fully supported, and services installed to facilitate underground development work.

- 2) *Provide clarification on whether security signs will be posted around the property boundary (Application, p. 17.2), the subdistrict boundary (Application, p. 2.9), or both.*

Security signage will be posted around the perimeter of the subdistrict (rezone) boundary within visual distance of any point along the boundary and at roads that intersect the rezone boundary. Directional signage will be posted at the main turnoff from Route 11 and at road intersections along access roads, including Hale Pond Rd. and Bear Mtn. Rd.

- 3) *Provide the trip number for traffic expected during the peak hour (including employees, contractors, visitors, delivery, and ore haulage).*

There are expected to be a maximum of 94 trips per peak hour on the 5-mile mine access road within LUPC jurisdiction. This estimate includes employees, contractors, visitors, deliveries, and ore transport vehicles. A Maine DOT traffic permit will be obtained as required should traffic increase to 100 or more trips per peak hour.

Reference: Pickett Mountain Mine Rezone, ZP779A

- 4) *Provide a copy of the Development Plan with the heading “Response to LUPC Comments of February 24, 2023” removed to clarify that the Plan would be a stand-alone document.*

A copy of the Development Plan including this requested change and the addition of pagination is included with this letter (see Attachment-A).

### **Technical Consultants Review and Agency Comments**

To develop a mine on this property, the Land Use Planning Commission (LUPC) requires rezoning of the proposed Project footprint of approximately 374 acres from General Management (M-GN) to a Planned Development (D-PD) subdistrict. The purpose of the D-PD subdistrict is to allow for a well-planned development that is dependent on a particular natural feature or location that is available at the proposed site. The burden of proof is upon the applicant to show by substantial evidence that the proposal satisfies the criteria established for the creation of the D-PD subdistrict.

The Project must also satisfy Maine Department of Environmental Protection (MDEP) Chapter 200 *Metallic Mineral Exploration, Advanced Exploration and Mining* rules (“Chapter 200”) prior to receiving a mining permit. Many of the agency comments acknowledge Chapter 200 and comment on the detailed design information that will be necessary for that process. Wolfden has provided substantial information as part of the rezoning process. However, the final design and demonstration of compliance with the Chapter 200 standards will be completed after the required comprehensive baseline surveys are approved and the resulting data obtained, analyzed, and incorporated into the final design.

### **Technical Consultant Comments**

#### *Sound*

Tech Environmental concurred with the modeling results presented in the application that demonstrate that Project operations are expected to meet applicable LUPC and MDEP sound limits for both daytime and nighttime periods and noted that levels were all below applicable sound limits at receptors and remain below the sound limits even if 3 to 4 dBA are added to the results to account for different modeling inputs. In response to Tech Environmental’s questions regarding the ground control factor (or ground absorption coefficient) and the sound power level uncertainty factor used in the Wood sound analysis, for bodies of water, a ground absorption coefficient of  $G=0$  (fully reflective) was used, and land areas were modelled with  $G=0.70$ . No power level uncertainty factor was applied.

#### *Project Economics*

SWCA Environmental Consultants reviewed the updated Project economics based on separating the processing plant and tailings management facility from the mine and found the cost assumptions to be reasonable.

Reference: Pickett Mountain Mine Rezone, ZP779A

### *Soils*

Dave Roque, the LUPC's consultant soil scientist, provided comments focused on soil wetness and slope. He concurred with the information on classification of the soils and that the soils are generally suitable for development. He identified some specific concerns related to soils, which will be addressed through a high-intensity soil survey that will be completed as part of the required baseline surveys and incorporated into the final design. Responses to broader concerns raised in the comments are addressed below.

Consistent with Mr. Roques' recommendation and their successful use on the Kibby Wind project, rock sandwiches will be used to minimize impacts to natural hydrology underneath proposed impermeable development areas, such as rock storage pads and ponds. Detailed mine design work that reflects the groundwater hydrology baseline study under the Chapter 200 process will seek to minimize cuts below the groundwater table.

The blasting associated with underground mine development is not expected to cause fissures in the surrounding bedrock that will adversely impact groundwater hydrology. Fracturing naturally occurs during stope and drift development in underground mines; however, it doesn't readily propagate through bedrock. Energy from blasting is focused on, and in the direction of, the face to be blasted, particularly when developing stopes within a geologically constrained orebody. As openings are created, pressure in the blast area is lowered and fluids will take the path of least resistance and move toward the excavation where there is more space. Groundwater will flow into the mine openings where it will be collected and pumped to the surface for treatment or recirculated back underground to be used in mining activities. If connections between shallow and deep groundwater are identified through test work or are created by underground blasting, fractures and openings will be grouted to reduce permeability during operations. Post-operations, hydrology will be returned to a pre-development state through backfilling.

Although not related to soil suitability, the conditions in the mine limit the potential for any impacts to surrounding groundwater. Specifically, due to the lower pressure of the mine openings and higher pressure of surrounding groundwater stores, water will flow into the mine openings. A reduced, oxygen poor environment will remain in groundwater stores surrounding the mine openings that prevents contamination from acid rock drainage. Post-operation, underground conditions will be returned to a reduced hydrogeological state with less sulfide mineral content due to extraction of sulfide minerals.

Consistent with the preference expressed by Mr. Rocque, the Project design uses overland irrigation systems instead of a subsurface system similar to a septic system. Extensive soil and hydrogeological test work under Chapter 200 will include consultation with soil and wetland specialists for the final design of these systems.

Finally, as part of the Chapter 200 process a comprehensive Mining Operation Plan will be developed that must include a Transportation Plan and a Dust Management Plan, including plans to prevent leaks and fugitive dust during transport of lean ore, ore concentrate, or metallic products on and offsite. Chapter 200 also requires the development of a Contingency Plan to address risks and response actions for any accidents or failures.

Reference: Pickett Mountain Mine Rezone, ZP779A

### *Socioeconomics*

The applicant appreciates Rachel Bouvier's thorough review and analysis of the socioeconomics report. Stepwise Data Research, the author of Attachment 10-A: Economic Assessment of the Proposed Pickett Mountain Project, has provided a response to Ms. Bouvier's review, which is Attachment-B of this letter.

Additionally, in response to the question concerning local hiring following construction and start-up, the applicant provides the following information on the steps it will take to maximize local hiring during the operational phase of the Project. To maximize opportunities for local hiring, the applicant will partner with local vocational schools and colleges to develop training programs and teach skills specific to mining. An experienced mining contractor will initiate underground mine production while training local workers as the work force transitions to a higher percentage of Maine-based employees. The Project will offer employment opportunities extending beyond underground mining, drilling, and blasting positions. Specifically, the Project will hire employees and contractors from the following skilled trades: carpentry, earthworks, equipment operation, mechanical, electrical, plumbing, painting, transport truck driving, millwright, and welding. The Project will also hire employees to fill the following positions: surveyors, security guards, metallurgists, human resources, accountants and bookkeepers, information technology, engineers, geologists, health and safety supervisors, custodians, environmental technicians, purchaser, warehouse manager, assayer/chemist, and laboratory technicians.

### **Agency Comments**

#### *Maine Natural Areas Program*

The Maine Natural Areas Program did not identify any rare botanical features that will be disturbed within the Project site. As recommended in its review, and as part of the Chapter 200 process, the proposed development site will be inventoried by a qualified field botanist to ensure that no undocumented rare plants or communities are inadvertently harmed.

#### *The Passamaquoddy Tribal Historic Preservation Office and Maine State Historic Preservation Office*

The Maine State Historic Preservation Office noted that a preliminary archeological reconnaissance was completed, which located several possible Indigenous tool stone sources on the surface and a glacial terrace that requires further testing and notes that follow-up investigations can occur as part of the development process. The applicant will initiate a Phase 1 Archaeological Assessment of the Project Area as part of the Chapter 200 process. The studies will include a search for all potentially significant archaeological sites or gathering enough data for statistical assurance that no such sites exist, and could include ground surveys, and subsurface sampling and testing. The Maine tribes are being invited to participate in the Phase 1 Archaeological Assessment of the Project Area.

The Passamaquoddy Tribal Historic Preservation Office noted the need for an archeological survey of the Project footprint and on any new road construction, and the need for appropriate measures to be in place to address unanticipated artifacts discovered during construction. Standard consultation with archaeological professionals will occur during construction activities, and a procedure regarding the potential unanticipated

**Reference:** Pickett Mountain Mine Rezone, ZP779A

discovery of artifacts will be developed during the Chapter 200 process and implemented during construction.

### *Bureau of Parks and Lands*

The Maine Bureau of Parks and Lands notes the importance of maintaining public access and opportunity for ATV and snowmobile use, public access for hunting and wildlife observation, and the protection of fishing quality. The applicant agrees and the Project design includes appropriate consideration and planning to maintain existing recreational access and activities. The applicant has established relationships with regional ATV and snowmobile clubs and committed that access to recreational activities outside the mining rezone area will remain during operations. There are no designated trails within the rezone boundary.

### *Maine Geological Survey*

The applicant appreciates The Maine Geological Survey's ("MGS") conclusion that it is more appropriate management of the metallic mineral deposit to allow it to proceed to the Chapter 200 permitting process, as envisioned by the LUPC's Comprehensive Land Use Plan ("CLUP"), than to have it remain in the M-GN subdistrict. Suggestions for expansion of the rezone area to provide additional flexibility have been taken into consideration, however the application seeks to limit the rezone area to that necessary for a well-designed project. The applicant believes the rezone area is appropriate and consistent with D-PD subdistrict criteria.

Many of MGS's comments relate to design elements that will be addressed in the final detailed design stages and evaluated as part of the Chapter 200 permitting process. The applicant looks forward to continuing input and consultation on the Project's final design, and acknowledges the conclusions that:

- The features of the site and their arrangement overall are well laid out, efficient, and logical, and are situated well in consideration of the topography and wetland areas.
- The analysis of area hydrology and the general water balance of the site appears to be sufficient.
- The precipitation and runoff modeling presented also appears sufficient and reasonable.
- Furthermore, the two reports concerning spray irrigation, snowmaking, and changes to water flow timing and quantity all appear to be well-considered; and
- The general design of contact water treatment (holding ponds, treatment works, and treated water disposal) appears well-considered and appropriate, as long as they are designed for the appropriate volume of water produced.

The applicant wishes to provide some additional detail on certain design aspects discussed in the MGS review and to provide clarification where appropriate.

### Site Facilities and Operations

Designs for road construction and site traffic attempted to minimize the construction of new roads and changes to existing roads, and avoid impacts to wetlands, streams, and their associated buffers. Final

Reference: Pickett Mountain Mine Rezone, ZP779A

infrastructure design will take into consideration the widening of intersections or roads, but it is anticipated that the current design will be adequate for the expected traffic.

Material handling of ore, low-grade ore, and waste rock will take place within the water collection area. This includes backfill handling, ore unloading, loading of ore with a front-end loader for transport, waste rock characterization on the waste rock pad, access to and from the portal, etc. Each component of material handling, on site roads and offsite, will be included in a Transportation Plan developed under the Chapter 200 application process. The applicant recognizes that additional permits may be required for certain site activities.

Please refer to page 8 of this document under section *Department of Environmental Protection – Ore Processing and Waste Rock Management* for a description of how backfill material can be neutralized.

### Impacts to Water Quantity

Approximately 15.8 MGY (30 GPM) is estimated to be from groundwater infiltration into the mine openings. This water will be pumped to the surface, and either recirculated for use in the mine or processed through the water treatment facility and directed to water recharge areas by spray irrigation or snowmaking. Given that mine operations use recirculated water for dust control, washing of muck piles, refuge station(s), truck washing, drilling service water, fire suppression, ground support installation, cement mixing, etc., no additional water from mining activities is included in the wastewater management (infiltration) proposal because the water required for such activities is approximately equal to the water generated from mining activities. The water that is required for mining activities is pumped to the surface and directed to the pre-treatment water storage pond, where it is stored before being recirculated back underground. Volumes of water required for mining operations and those generated from mining activities are based on industry experience and inputs from mining consultants, designs of underground services and workings, mining equipment usage, and the proposed production schedule.

The 15.8 MGY of groundwater infiltration is extrapolated from other sites and backed up through estimates in groundwater hydrology and planned surface area of exposed bedrock within the mine openings. This estimate will be refined through hydrogeological drilling and testing during the baseline characterization studies under the Chapter 200 application process. The current water management proposal can manage a range of water volumes, including 15.8 MGY of groundwater infiltration  $\pm$  86%. Finally, underground mining operations have the ability to limit the amount of groundwater infiltration through various grouting and coating programs that restrict flow from groundwater into the underground workings. These grouting practices allow the mine operator to design or limit the amount of groundwater inflow for the needs of the operation.

The water treatment facility has the capacity to manage additional water from surface uses such as dust control, fire suppression, and equipment washing. There is significant redundancy built into water treatment facility designs to address ranges in water volume from additional or unplanned uses and weather events. Note that water requirements for exploration drilling activities are managed at the drill setup and are not part of the water balance at the mine facility.

**Reference:** Pickett Mountain Mine Rezone, ZP779A

The applicant appreciates the growing concern about PFAS contamination throughout the State of Maine and will develop a PFAS avoidance policy as part of its overall chemical management plan to limit the use of any PFAS-containing material onsite. Additionally, the water treatment facility is designed to remove PFAS that may be present in the water.

### Impacts to Water Quality

The water collection area is graded and engineered to collect site contact water and redirect it to the pre-treatment water storage pond. This area is considered “impervious” and is underlain with an engineered liner sequence. Infrastructure within the water collection area includes the snow storage area, waste rock and ore stockpiles, buildings, ditches, sumps, and roads. Any activity that could potentially impact water quality, such as loading and unloading mined rock, is executed within the water collection area. Water contacting buildings and lots within the water collection area will be diverted to ditches and the pre-treatment water storage pond.

### Miscellaneous Questions

A preliminary Acid Base Accounting (“ABA”) study was performed on seven (7) samples taken from representative areas within waste rock where development drifts and raises are currently planned. Five (5) samples were taken from drill holes in the footwall of the orebody and two (2) samples were taken from the hanging wall. A range of rock types were selected for the ABA work, including mafic volcanics, felsic volcanics, and mafic intrusives. A more comprehensive Metal Leaching and Acid Rock Drainage (“MLARD”) study will be completed once fresh core has been collected from an infill drill program planned to take place during the Chapter 200 application process. Additional samples will be collected in ore, waste rock, and low-grade ore, including typical rock types to be encountered during underground development and production.

Most of the underground development is currently designed in the footwall of the orebody; however, final detailed mine design will be completed once additional MLARD samples are analyzed, and geo-mechanical drilling programs have taken place. The near-vertical geometry of the deposit allows for some flexibility with mine design, such that the most appropriate locations, geochemically and geotechnically, will be selected for underground development.

Low-grade ore will be handled like higher-grade ore. It can be processed on its own and still produce an incremental profit or it can be blended with higher grade “pods” of ore to generate a consistent mill feed grade. If low-grade ore is not consumed throughout the life of the operation, it is processed through the concentrator before closure and reclamation begin.

### *Inland Fisheries & Wildlife*

The Maine Department of Inland Fish and Wildlife (“MDIFW”) did not offer any objections to the proposed rezoning and flagged that additional information would be provided as part of the Chapter 200 process. The applicant agrees and looks forward to continuing consultation with MDIFW to ensure that appropriate

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avoidance and minimization measures are employed with respect to the protection of wildlife habitat during Project design and operation.

#### *Department of Environmental Protection*

The applicant thanks the Department for its review and comments on the technical elements of the Application for Zone Change and for bringing forth many important considerations that would be included with a review of a mining permit application under Chapter 200.

#### Clarity and Consistency

The term “potable water” in Section 2.5.2 of the Application for Zone Change refers to water to be used for hand washing and bathroom/shower facilities, but not for drinking purposes. Drinking water will be brought in from offsite. Non-drinking water sources will be labeled accordingly, and the applicant will consult with the Maine Department of Health and Human Services under final detailed design work as needed regarding site drinking water.

Section 17.4 of the PEA discusses makeup process water utilized in the concentrator facility. The Department’s statement that the comment regarding makeup water is not applicable to the current proposal is correct.

A centralized laydown is proposed in the current site plan that will allow access to all site facilities. A mine laydown yard more proximate to the portal could be included in the final detailed design stages.

Figure 2-7 provides details for typical and conceptual designs of various water management infrastructure. The infiltration gallery in this figure does not refer to a specific feature proposed at the site; however, the subsurface domestic wastewater disposal system could utilize a design like what is represented on Figure 2-7.

#### Chapter 200 Prohibitions

The applicant recognizes the Department’s comment that no proposals within the Application for Zone Change are prohibited under Subchapter 1 (1)(B) of Chapter 200.

#### Ore Processing and Waste Rock Management

The applicant agrees that the Chapter 200 application will include not only the mine, but any processing facilities proposed within the State.

Please refer to page 7 of this document under section *Geology – Miscellaneous Questions* for a description of the preliminary Acid Rock Drainage (“ARD”) testing.

Determination of acid-generating or neutralizing potential, and the need for treatment or blending, of backfill material will be made from geochemical characterization work to be performed during the Chapter 200

**Reference:** Pickett Mountain Mine Rezone, ZP779A

application process. Backfill material may require the addition of cement for structural and/or neutralizing purposes, and a management plan for backfilling reactive mine waste will be generated through discussions with the MDEP during the Chapter 200 application process.

### Solid Waste

The final design will comply with MDEP solid waste requirements. The Organics Storage area is for storage of overburden and debris from land clearing during early-stage site development that is not used during construction for site erosion and sediment control. The stored material will be stabilized and remain in the Organics Storage until the reclamation phase of the Project when it will be placed back onto the reclaimed developed areas of the site.

### Air Emissions / Licensing

The applicant understands that additional permits may be required including, but not limited to, those for air emissions, NRPA, Maine DOT, stormwater management, and quarrying.

### Water Treatment

The applicant appreciates and agrees with the background information provided on potentially applicable water discharge requirements.

The Water Treatment Scoping Study in Attachment 10-D of the Application for Zone Change utilized a “worst case scenario” example of site contact water from a mine with comparable metal grades and rock types. Geochemical characterization work (trace element geochemistry, metal leaching, and acid rock drainage) studies will take place utilizing fresh drill core from a planned infill drill program. The data obtained in these studies will be used to model site contact water chemistry in reverse osmosis water treatment systems.

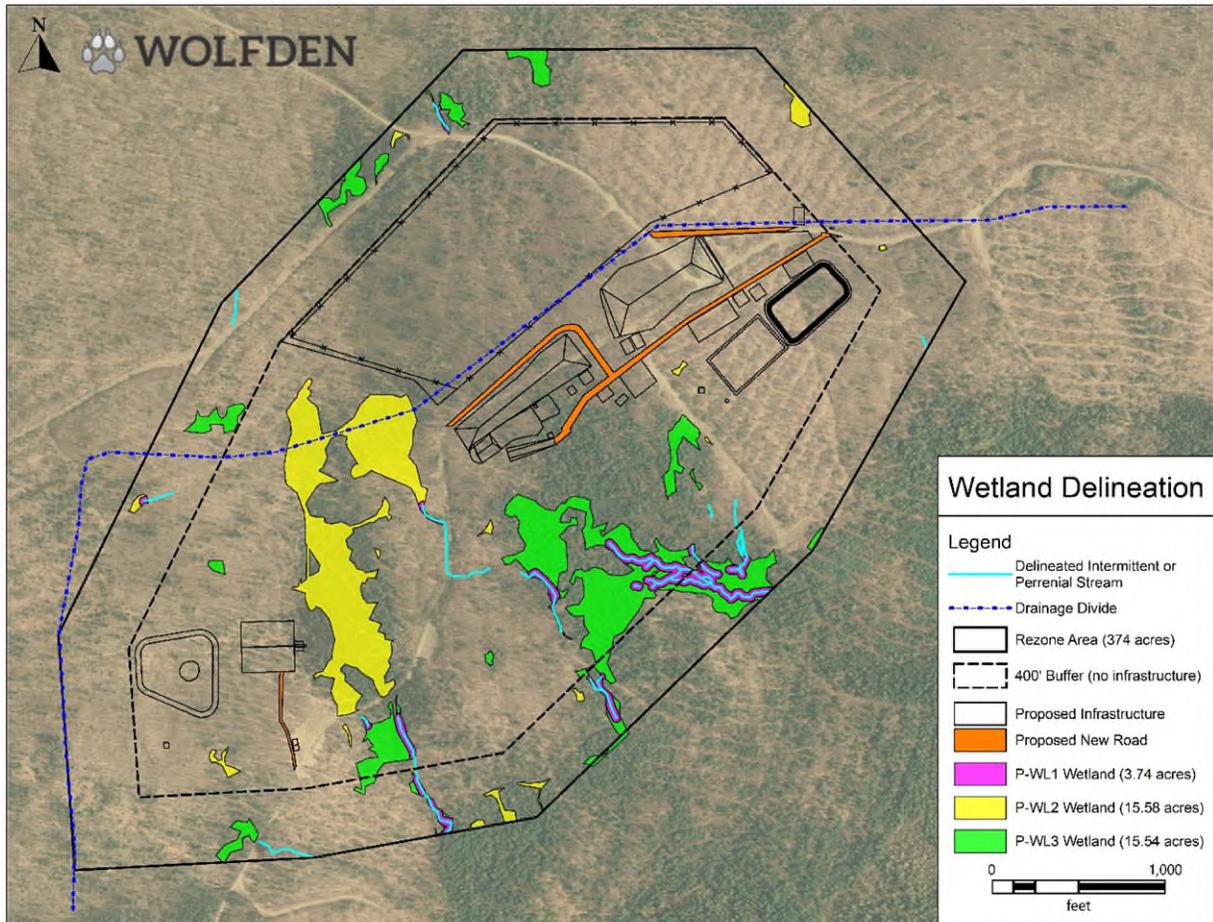
### Surface Water and Aquatic Life Protection

The applicant concurs with the description of what must be included as part of the baseline characterization surveys under Chapter 200. Clarification of Attachment 6A and Exhibit 10.0 is provided below.

Within the Project Area, there are 3.74 acres of Wetlands of Special Significance (P-WL1), 15.58 acres of Scrub-shrub Wetlands (P-WL2), and 15.54 acres of Forested Wetlands (P-WL3).

Reference: Pickett Mountain Mine Rezone, ZP779A

Figure-1: Delineated Wetland Acreage



Section 6.1.1 of the applicant’s Application for Zone Change states that there are no lakes, ponds, or rivers in the Project Area. Intermittent and perennial streams and vernal pools within the Project Area have been delineated and are described in Attachment 6-A. Delineated aquatic resources within the Project Area and National Wetland Inventory (“NWI”) water resources within a 3-mile radius are shown in Attachment-C.

Hydrogeological studies to predict and model groundwater flow direction and depth will be initiated as part of the baseline characterization plan under the Chapter 200 process. Studies will include existing shallow and deep groundwater hydrology and modeling of projected subsurface aquatic resources as they relate to the detailed design of underground mine workings and water infiltration areas on surface.

Reference: Pickett Mountain Mine Rezone, ZP779A

### Water Management, Fuel Storage and Spill Prevention

The applicant appreciates the Department's comment regarding the conceptual plans and preliminary calculations proposed for stormwater management meeting applicable standards under Chapter 500. A Contingency Plan will be included as a required part of the mining permit application under the Chapter 200 process. The plan will include an assessment of public health risks and require a complete Spill Prevention, Control and Countermeasures Plan as part of larger Contingency Plan. The current water treatment facility and pond designs include a contingency for increased runoff volume during a 500-year, 24-hour storm event in accordance with Chapter 200 regulations. Reverse osmosis ("RO") water treatment plants are designed with redundancy to address potential mechanical failure and additional volumes of water. Mobile RO systems are readily used across the world within various industries and mobile units can be arranged to be on stand-by.

### Soil Mapping

Class A soil mapping to evaluate proposed water irrigation areas will be conducted under baseline characterization studies during the Chapter 200 application process. In addition to comprehensive mapping of wastewater irrigation areas to better estimate runoff curve and flow type, high intensity soil mapping will be done in areas of infrastructure development, such as the portal, ventilation raises, stockpiles, and new roads.

### Closure / Reclamation

The applicant recognizes that closure and reclamation plans under Chapter 200, Subchapter 5 (23) could include retainment and maintenance of certain site infrastructure beyond the closure stage of other site features. Feasibility studies and final reclamation planning to occur during the Chapter 200 application process will include consultation with the MDEP on post-closure stormwater management.

Respectfully yours,

**STANTEC CONSULTING SERVICES INC.**



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**Reference:** Pickett Mountain Mine Rezone, ZP779A

**Attachment:** Attachment-A: Development Plan, Attachment-B: Stepwise Data Research Memo,  
Attachment-C: 3-Mile Water Features Figure

# **ATTACHMENT A**

# Picket Mountain Planned Development Subdistrict (Pickett Mtn. D-PD) Development Plan

Date: April 13, 2023

## 1. Purpose and Scope

- a. Purpose.** The Land Use Planning Commission's (Commission) Chapter 10 rules, Land Use Districts and Standards (Chapter 10), establish that the purpose of the Planned Development subdistrict (D-PD) is to allow for large scale, well-planned development, including developments separated from existing development, provided: 1) they are shown to be of high quality and not detrimental to other values established in the Comprehensive Land Use Plan; and 2) they depend on a particular natural feature or location that is available at the proposed site. In accordance with Chapter 12 of the Commission's Land Use District Requirements for Metallic Mineral Mining and Level C Mineral Exploration Activities, metallic mineral mining activities are allowed only within the D-PD subdistrict.

Planned development within a D-PD subdistrict must be consistent with a Development Plan approved as part of the rezoning process. A Development Plan identifies land uses allowed within the subdistrict, specifies which uses require a development permit, and outlines the nature, location, and design of the Planned Development for which the subdistrict was created.

The purpose of the Pickett Mtn. D-PD subdistrict and Development Plan is to allow for well-planned, metallic mineral mining activities and other associated development near Pickett Mountain, in T6 R6 WELS, Penobscot County.

- b. Scope.** The nature, location, and design of the planned development for this subdistrict is detailed in the zoning application filed by Wolfden Mt. Chase, LLC., ZP 779a, including Figure 2-1, Conceptual Site Plan, dated April 13, 2023 (Conceptual Site Plan) and Table 6-1, Existing and Proposed Structures or Development Area within the Project Area, April 2023 (Setback Table). During detailed engineering analysis and planning in support of the mine permit application to the Maine Department of Environmental Protection (MDEP), the preliminary locations and dimensions may change. Changes may reflect improvements in the efficiency of the project, environmental management of the site, and comments by the MDEP.

Changes to the Conceptual Site Plan and Setback Table may be authorized by permit and requests for certification, where applicable, but may not cause individually or cumulatively any of the following:

- 1) The addition of a land use not previously approved in the Development Plan;
- 2) A material change in the size, scope, or nature of the project;
- 3) Material increases in traffic volume;
- 4) Any reduction in vegetated buffers required for the Pickett Mtn. D-PD subdistrict and the Pickett Mountain Mine;

- 5) A material reduction in open space or parking; or
- 6) A material change giving rise to adverse environmental impact.

All other changes to the Pickett Mountain Development Plan must be made as part of a zoning application.

## **2. Description**

The Pickett Mtn. D-PD subdistrict includes:

- a. An area of land, owned by Wolfden Mt. Chase, LLC, necessary to reasonably conduct authorized mining and mineral exploration activities, and to adequately buffer those activities from surrounding resources or uses; and
- b. Approximately 374 contiguous acres, as described in the “Legal Description and Delineation of the Property Boundaries Proposed for Rezoning,” attached in Appendix A of this Development Plan.
- c. The Conceptual Site Plan and Setback Table, attached as Appendix B and C of this Development Plan, respectively.

Wolfden Mt. Chase, LLC, does not intend to create a subdivision nor divide and transfer any of the land within the subdistrict during the lifetime of the subdistrict.

## **3. Land Uses**

Land uses anticipated for the Pickett Mtn. D-PD subdistrict include:

- Uses and activities allowed without a permit;
- Uses allowed without a permit subject to standards; and
- Uses and activities allowed with a permit.

The Pickett Mtn. D-PD subdistrict is an undivided, custom subdistrict. The following uses are allowed within the subdistrict.

### **a. Uses Allowed Without a Permit**

The following uses are allowed without a permit within the Pickett Mtn. D-PD subdistrict.

- 1) Baseline and ongoing environmental monitoring and data collection necessary to finalize design and establish and maintain compliance with applicable State regulatory requirements, including the requirements of the MDEP’s Chapter 200 rules, 06-096 CMR 200
- 2) Emergency operations conducted for the public health, safety or general welfare, such as emergency medical response, firefighting, law enforcement, resource protection, and search and rescue operations
- 3) Forest management activities, except for timber harvesting

- 4) Hunting and trapping of wild animals provided such hunting and trapping is conducted at least 500 feet away from existing development including legally existing structures
- 5) Motorized vehicular traffic on roads and trails, parking areas, storage pads, and similar legally existing impervious surfaces, including snowmobile and all-terrain vehicle traffic on-and off roads
- 6) Normal maintenance and repair
  - (a) The repair and maintenance of vehicles, vehicular equipment, and other mobile equipment provided that repair and maintenance activities occur in on-site maintenance buildings to the fullest extent practicable; and
  - (b) The normal maintenance and repair of legally existing structures (including underground or subsurface structures), parking areas, lined pads; and other impervious surfaces, provided that adequate measures are taken to control runoff and minimize soil erosion.
- 7) Primitive recreational uses, including fishing, hiking, wildlife study and photography, wild crop harvesting, horseback riding, tent and shelter camping, canoe portaging, cross country skiing, and snowshoeing
- 8) Security operations conducted for public health, safety, or general welfare, and the protection of onsite personnel, equipment, and assets including but not limited to installation or relocation of security fencing within the Major Mine Development Phase 1 or Mine Development Phase II areas reflected on Figure 27-1 Custom Zone Development Areas, dated April 13, 2023 (Appendix D)
- 9) Shipping and receiving of materials
- 10) Surveying and other resource analysis
- 11) Wildlife and fishery management practices

**b. Uses Allowed Without a Permit Subject to Standards**

The following uses are allowed without a permit within the Pickett Mtn. D-PD subdistrict subject to applicable standards. Note that the minimum roadway setbacks set forth in Chapter 10, Section 10.26(D) of the Commission's rules do not apply to the roads within the D-PD subdistrict.

- 1) Accessory structures: New structures accessory to any structures and uses reflected on the Conceptual Site Plan provided that:
  - (a) The total square footage of the footprint of all new accessory structures built within a two- year period is not more than 2,000 square feet; and
  - (b) All other requirements and standards of the Commission's Chapter 10, Section 10.27(P) are met.

- 2) Filling and grading within development area envelopes as shown on Figure 27-1
- 3) Mineral exploration activities: Level A and B mineral exploration activities, including associated temporary access ways, in conformance with the requirements for such activities in Chapter 13 of the Commission's rules
- 4) Road projects: Level A road projects in conformance with the requirements for such activities in Chapter 10, Section 10.27(D) of the Commission's rules
- 5) Service drops to legally existing structures
- 6) Signs in conformance with the requirements for such activities in Chapter 10, Section 10.27(J) of the Commission's rules
- 7) Water crossings of minor flowing waters in conformance with Chapter 10, Section 10.27(D) of the Commission's rules

**c. Uses Requiring a Permit**

The following uses, and related accessory structures, may be allowed within the Pickett Mtn. D-PD subdistrict upon issuance of a permit by LUPC, DEP, or the Department of Health and Human Resources, as applicable.

- 1) Constructed ponds: Pre- and post-treatment water storage ponds, provided that:
  - (a) The ponds are in conformance with the Conceptual Site Plan and Setback Table and located within the applicable development area envelope shown on Figure 27-1; or
  - (b) For any footprint expansions, the cumulative surface area expansion of ponds within an applicable development area envelope does not increase by more than 20%.
- 2) Driveways and vehicle parking areas
- 3) Fences located outside of Major Mine Development Phase I or Mine Development Phase II areas shown on Figure 27-1
- 4) Land management roads
- 5) Metallic mineral mining activities: Metallic mineral mining activities and processes, as defined in Chapter 10, Section 10.02, and in conformance with the Conceptual Site Plan and Setback Table
- 6) Mineral exploration activities: Access ways for Level A and B mineral exploration activities, and Level A and B mineral exploration activities which are not in conformance with the standards of Chapter 13 of the Commission's rules
- 7) On-site storage and disposal of land clearing and construction debris in compliance with applicable MDEP rules
- 8) Relocations: Relocations of metallic mineral mining activities and structures that are shown on the Conceptual Site Plan provided that the relocated activity or structure:

- (a) Will be located within the applicable development area envelope as shown on Figure 27-1; and
  - (b) Does not involve the addition of a land use not previously approved in this Development Plan.
- 9) Road projects: Level A road projects not in conformance with the requirements for such activities in Chapter 10, Section 10.27(D) of the Commission's rules; and Level B and C road projects
- 10) Signs that are not in conformance with the standards of Chapter 10, Section 10.27(J) of the Commission's rules
- 11) Solar energy systems, including large-scale solar energy generation facilities and associated structures, located within the applicable development area envelope
- 12) Storage pads for ore and waste rock, laydown areas, and storage areas for snow and organic materials provided that:
- (a) The pads, laydown areas, and storage areas are in conformance with the Conceptual Site Plan and Setback Table; and located within the applicable development area envelope (Figure 27-1); or
  - (b) For any footprint expansions, the cumulative surface area expansion of pads, laydown areas, and storage areas within an applicable development area envelope does not increase by more than 20%.
- 13) Stormwater management structures including but not limited to piping conveying water to water storage ponds, ditching and pumping structures
- 14) Structures:
- (a) All structures in conformance with the Conceptual Site Plan and Setback Table and located within the applicable development area envelope (Figure 27-1); or
  - (b) New structures not shown on the Conceptual Site Plan or expansion of structures shown on the Conceptual Site Plan provided that the new or expanded structures:
    - i. Will be located within one of the three development areas as shown on the Conceptual Site Plan;
    - ii. Will not exceed a total maximum structure footprint increase of 20,000 square feet for the lifetime of the subdistrict based on the total structure footprint (for clarity, structures do not include constructed ponds, laydown areas, or roads or parking areas) shown on the Conceptual Site Plan and in the Setback Table;
    - iii. Will not exceed 120 feet in height as measured from the lowest adjacent grade; and

iv. Will not involve the addition of a land use not previously approved in the Development Plan.

15) Subsurface Sanitary Wastewater Disposal Systems

16) Timber harvesting

17) Utility facilities, excluding service drops

18) Ventilation shafts, raises, surface shafts and attendant headworks that are needed to facilitate deeper ore removal and provide for safe working conditions in the mine

19) Water crossings of minor flowing waters not in conformance with Chapter 10, Section 10.27(D) of the Commission's rules

20) Water recharge areas (WRAs) (e.g., drip or spray irrigation, snowmaking, infiltration galleries) subject to the following additional limitations

(a) No clearing or infrastructure associated with drip or spray irrigation or snowmaking may be located within the 400-foot buffer, and,

(b) Infiltration galleries must be located within the development areas shown on Figure 27-1

21) All uses and structures identified on the Conceptual Site Plan to the extent not otherwise expressly authorized as allowed with or without a permit

#### **4. Prohibited Uses**

All uses not expressly allowed, with or without a permit, are prohibited in the Pickett Mtn. D-PD subdistrict.

#### **5. Appendices**

Appendix A. Legal Description and Delineation of the Property Boundaries Proposed for Rezoning

Appendix B. Figure 2-1, Conceptual Site Plan, Dated April 13, 2023

Appendix C. Table 6-1, Existing and Proposed Structures or Development Area within the Project Area, April 2023

Appendix D. Figure 27-1, Custom Zone Development Areas, Dated April 13, 2023

**Appendix A. Legal Description and Delineation of the  
Property Boundaries Proposed for Rezoning**

*A certain piece or parcel of land located within township 6, range 6 wells (t6, r6 wells), county of Penobscot, state of Maine and being more particularly bounded and described as follows:*

*Beginning at a point located in the Maine state plane coordinate system-NAD 83 (east zone-1801), as measured in United States survey feet at north: 901910.4220, east: 995529.5778; thence running through the land of the grantor on a course of south twenty-nine degrees fifty-six minutes forty-three seconds west (S 29° 56' 43" W) a distance of one thousand seven hundred eighty-four and thirty-three hundredths (1784.33) feet to a point located at north 900364.2935, east 994638.8868;*

*Thence running through the land of the grantor on a course of south forty-six degrees twenty-two minutes forty-four seconds west (S 46° 22' 44" W) a distance of two thousand two hundred thirteen and fifty-six hundredths (2213.56) feet to a point located at north 898837.1935, east 993036.4493;*

*Thence running through the land of the grantor on a course of south eighty degrees seven minutes thirteen seconds west (S 80° 07' 13" W) a distance of one thousand three hundred three and seventynine hundredths (1303.79) feet to a point located at north 898613.4902, east 991751.9960;*

*Thence running through the land of the grantor on a course of south eighty-seven degrees twenty-threeminutes four seconds west (S 87° 23' 04" W) a distance of one thousand three hundred seventy-nine and thirty-three hundredths (1379.33) feet to a point located at north 898550.5425, east 990374.1055;*

*Thence running through the land of the grantor on a course of north three degrees thirty-nine minutes six seconds west (N 03° 39' 06" W) a distance of one thousand three hundred fifty-nine and sixty-eight hundredths (1359.68) feet to a point located at north 899907.4634, east 990287.5060;*

*Thence running through the land of the grantor on a course of north twenty-six degrees thirty-six minutes sixteen seconds east (N 26° 36' 16" E) a distance of two thousand one hundred thirty and seven tenths (2130.70) feet to a point located at north 901812.8389, east 991241.1408;*

*Thence running through the land of the grantor on a course of north forty-four degrees two minutes fiftythree seconds east (N 44° 02' 53" E) a distance of two thousand fifteen and forty-two hundredths (2015.42) feet to a point located at north 903261.4363, east 992642.3903;*

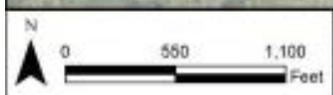
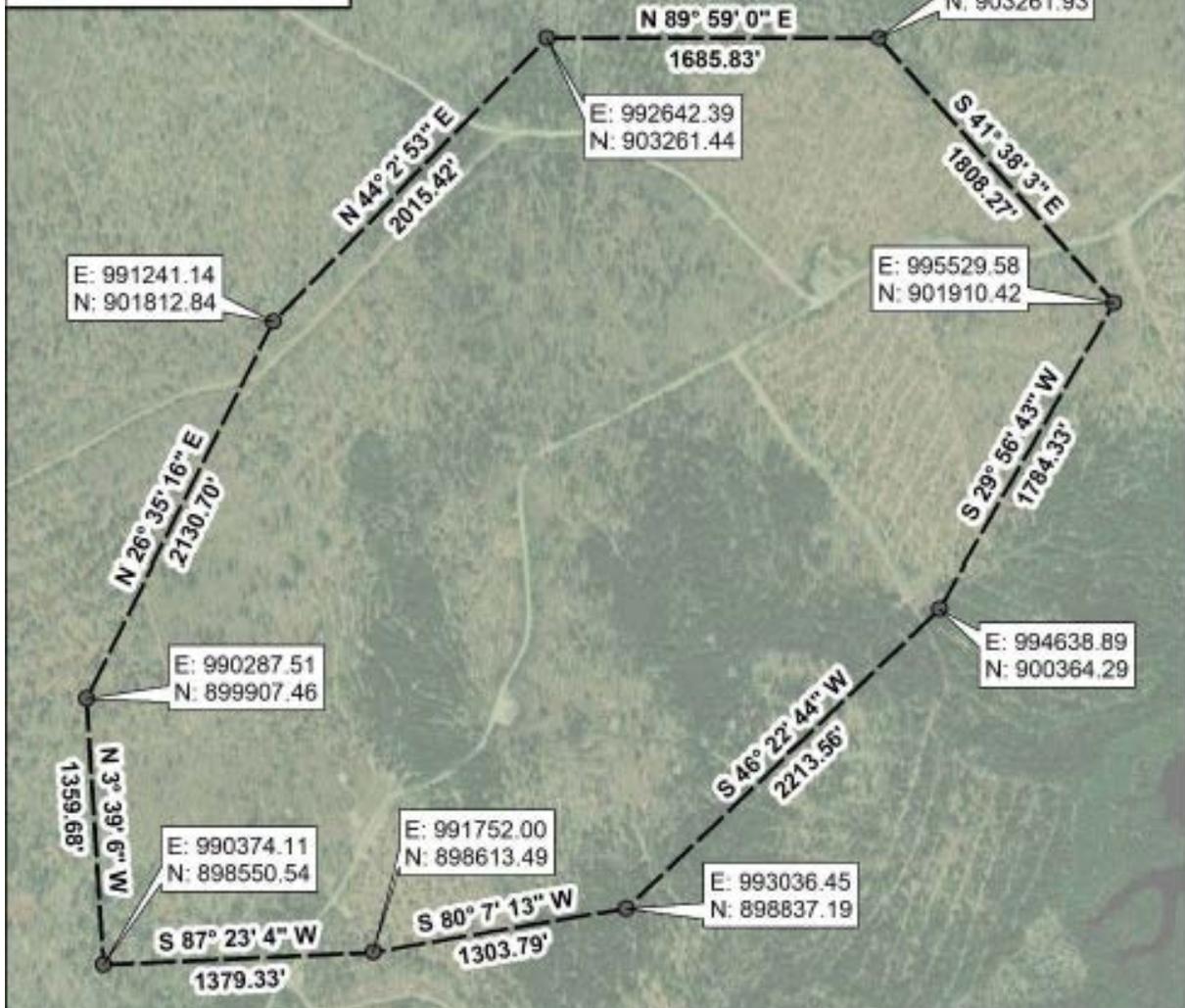
*Thence running through the land of the grantor on a course of north eighty-nine degrees fifty-nine minutes zero seconds east (N 89° 59' 00" E) a distance of one thousand six hundred eighty-five and eighty-three hundredths (1685.83) feet to a point located at north 903261.9253, east 994328.2162;*

*Thence running through the land of the grantor on a course of south forty-one degrees thirty-eight minutes three seconds east (S 41° 38' 03" E) a distance of one thousand eight hundred eight and twentyseven hundreds (1808.27) feet to the aforementioned point of beginning.*

*Said parcel contains three hundred seventy-three and forty-one hundredths (373.41) acres more or less. The above-described parcel is a portion of land owned by the grantor as described in book 14672, page 27 of the Penobscot registry of deeds located in Bangor, Maine.*



# WOLFDEN



**LEGEND**

 Area Proposed for Rezoning

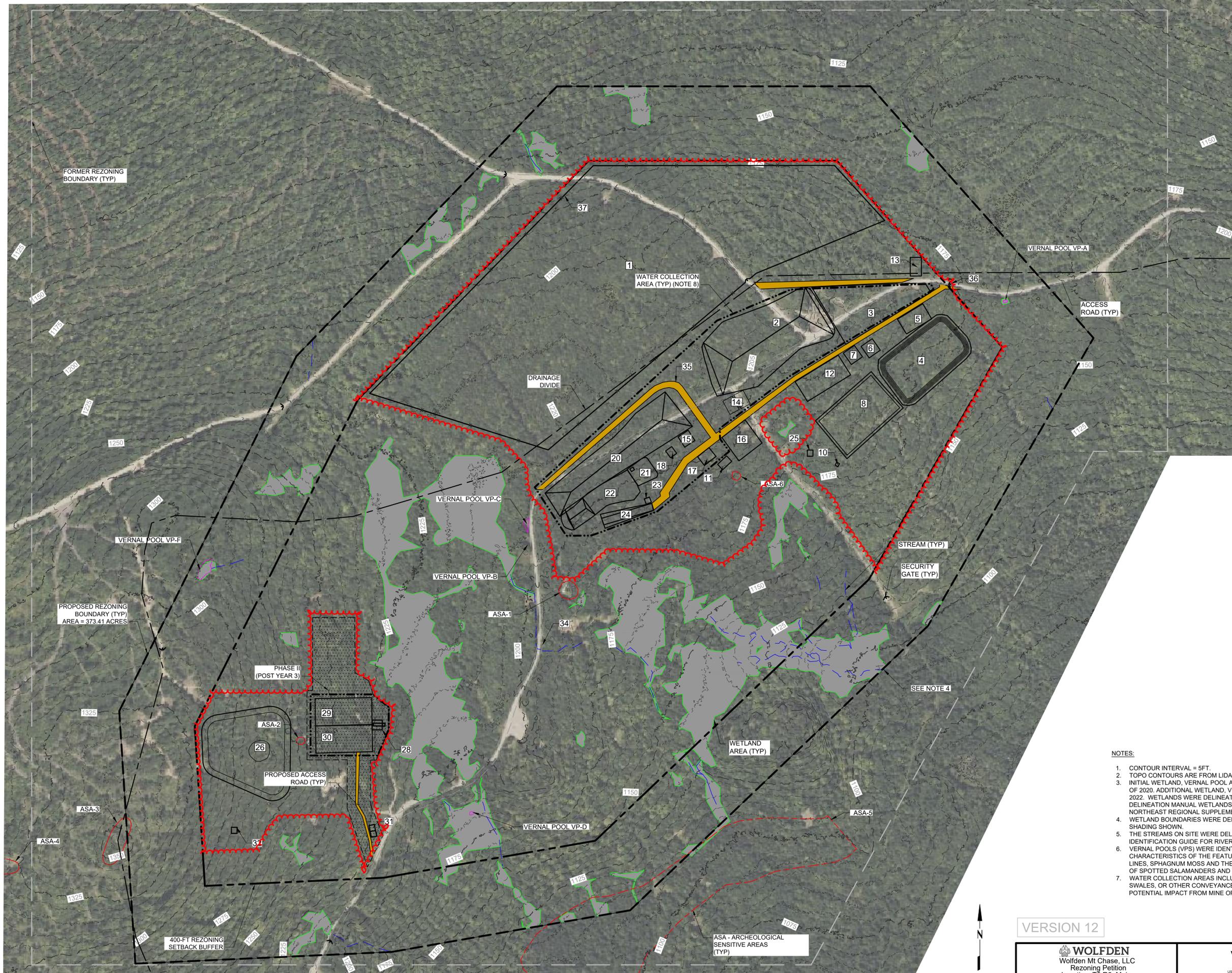
Easting and Northing Coordinates are NAD 83  
 State Plane Maine East, units are US Survey Feet.  
 Directions are in Degrees, Minutes, Seconds relative  
 to True North. Distances are in US Survey Feet.

**Appendix B. Figure 2-1, Conceptual Site Plan,  
Dated April 13, 2023**

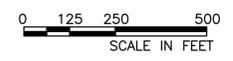
| Map ID | Facility Name                                |
|--------|--|
| 1      | SOLAR FACILITY (APPROX)                      |
| 2      | LOW GRADE ORE STORAGE PAD                    |
| 3      | SNOW STORAGE                                 |
| 4      | PRE-TREATMENT WATER STORAGE POND             |
| 5      | WATER TREATMENT FACILITY                     |
| 6      | ELECTRICAL SUBSTATION                        |
| 7      | BACK-UP POWER GENERATION (DIESEL OR PROPANE) |
| 8      | POST-TREATMENT WATER STORAGE POND            |
| NA     | WATER RECHARGE AREA #1 (NOT SHOWN)           |
| 10     | FIRE WATER PUMPHOUSE                         |
| 11     | SANITARY SUBSURFACE DISPOSAL SYSTEM          |
| 12     | PARKING FACILITY                             |
| 13     | WAREHOUSE                                    |
| 14     | OFFICES AND MINE RESCUE FACILITY             |
| 15     | CORE SHACK AND STORAGE                       |
| 16     | LAYDOWN (EQUIPMENT/SUPPLIES STORAGE)         |
| 17     | MAINTENANCE SHOP                             |
| 18     | EQUIPMENT FUELING STATION                    |
| NA     | WATER RECHARGE AREA #2 (NOT SHOWN)           |
| 20     | WASTE ROCK STORAGE PAD #1                    |
| 21     | BACKFILL PLANT                               |
| 22     | ORE (MILL FEED) STORAGE PAD #1               |
| 23     | BLAST SHACK                                  |
| 24     | MINE ACCESS (PORTAL)                         |
| 25     | EAST VENTILATION RAISE                       |
| 26     | ORGANICS STORAGE                             |
| NA     | WATER RECHARGE AREA #3 (NOT SHOWN)           |
| 28     | HEADFRAME AND HOIST                          |
| 29     | ORE (MILL FEED) STORAGE PAD #2               |
| 30     | WASTE ROCK PAD #2                            |
| 31     | TEMPORARY EXPLOSIVES STORAGE                 |
| 32     | WEST VENTILATION RAISE                       |
| NA     | WATER RECHARGE AREA #4 (NOT SHOWN)           |
| 34     | EXISTING SITE ROAD                           |
| 35     | PROPOSED SITE ROAD                           |
| 36     | SECURITY GUARD HOUSE/GATE                    |
| 37     | SECURITY FENCING                             |
| NA     | WATER RECHARGE AREA #5 (NOT SHOWN)           |
| NA     | WATER RECHARGE AREA #6 (NOT SHOWN)           |
| NA     | UNDERGROUND MINING FACILITIES (NOT SHOWN)    |

| LEGEND:    |                                     |
|------------|-------------------------------------|
| ---1125--- | MAJOR CONTOURS                      |
| ---1124--- | MINOR CONTOURS                      |
| ---        | STREAM                              |
| ---        | EXISTING SITE ROAD                  |
| ---        | VERNAL POOLS                        |
| ---        | ASA - ARCHEOLOGICAL SENSITIVE AREAS |
| ---        | 400-FOOT REZONING SETBACK BUFFER    |
| ---        | PROPOSED REZONING                   |
| ---        | OLD REZONING                        |
| ---        | WETLAND                             |
| ---        | FACILITIES DESIGN                   |
| ---        | WATER COLLECTION AREA               |
| ---        | PHASE II (POST YEAR)                |
| ---        | PROPOSED SITE ROAD                  |
| ---        | DRAINAGE DIVIDE                     |
| ---        | SECURITY FENCE                      |
| ---        | SECURITY GATE                       |
| ---        | CLEARING LIMIT                      |

- NOTES:**
1. CONTOUR INTERVAL = 5FT.
  2. TOPO CONTOURS ARE FROM LIDAR DATA (NOAA.GOV), MARCH 2021.
  3. INITIAL WETLAND, VERNAL POOL AND STREAM DATA WERE COLLECTED BY WOOD AND OTHERS IN MAY-JUNE OF 2020. ADDITIONAL WETLAND, VERNAL POOL, AND STREAM DATA WERE COLLECTED BY STANTEC-JUNE OF 2022. WETLANDS WERE DELINEATED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL WETLANDS TECHNICAL REPORT (Y-87-1) AND THE NORTH CENTRAL AND THE NORTHEAST REGIONAL SUPPLEMENT (ERC/DCEL TR-12-1).
  4. WETLAND BOUNDARIES WERE DELINEATED WITHIN THE REZONE BOUNDARY AND MAY CONTINUE BEYOND THE SHADING SHOWN.
  5. THE STREAMS ON SITE WERE DELINEATED FOLLOWING THE NATURAL RESOURCE PROTECTION ACT (NRPA) IDENTIFICATION GUIDE FOR RIVERS, STREAMS, AND BROOKS (DANIELSON, 2018).
  6. VERNAL POOLS (VPS) WERE IDENTIFIED ON MAY 17, MAY 18, AND MAY 28, 2020, BASED ON PHYSICAL CHARACTERISTICS OF THE FEATURES INCLUDING ISOLATED WATER BODIES, WATER STAINED LEAVES, WATER LINES, SPHAGNUM MOSS AND THE PRESENCE OF HYDROPHYTIC VEGETATION AS WELL AS EGG MASS COUNTS OF SPOTTED SALAMANDERS AND WOOD FROGS WERE COLLECTED.
  7. WATER COLLECTION AREAS INCLUDE AREAS WHERE STORMWATER RUNOFF IS COLLECTED BY BERMS, SWALES, OR OTHER CONVEYANCE METHODS AND TREATED AT THE WATER TREATMENT FACILITY DUE TO POTENTIAL IMPACT FROM MINE OPERATIONS.



VERSION 12



Prepared/Date: WJW 4/13/23  
Checked/Date: MAP 4/13/23

**WOLF DEN**  
Wolfden Mt Chase, LLC  
Rezoning Petition  
Location: T6 R6, Maine

**wsp**  
USA Earth & Environmental  
511 Congress Street, Suite 200, Portland, ME 04112 (207) 775-5401

CONCEPTUAL  
SITE PLAN  
Project 3617-22-7547  
Figure 2-1

C:\Users\william.wilkinson\OneDrive - WSP\_0365\Projects\Wolfden Rezoning\2023\Sheets\Figure 2-1\_Conceptual Site Planning - Thu, 13 Apr 2023 9:48am william.wilkinson

**Appendix C: Table 6-1, Existing and Proposed Structures  
or Development Area within the Project Area, April 2023**

Update to Table 6-1: Existing and Proposed Structures or Development Area within the Project Area, April 2023

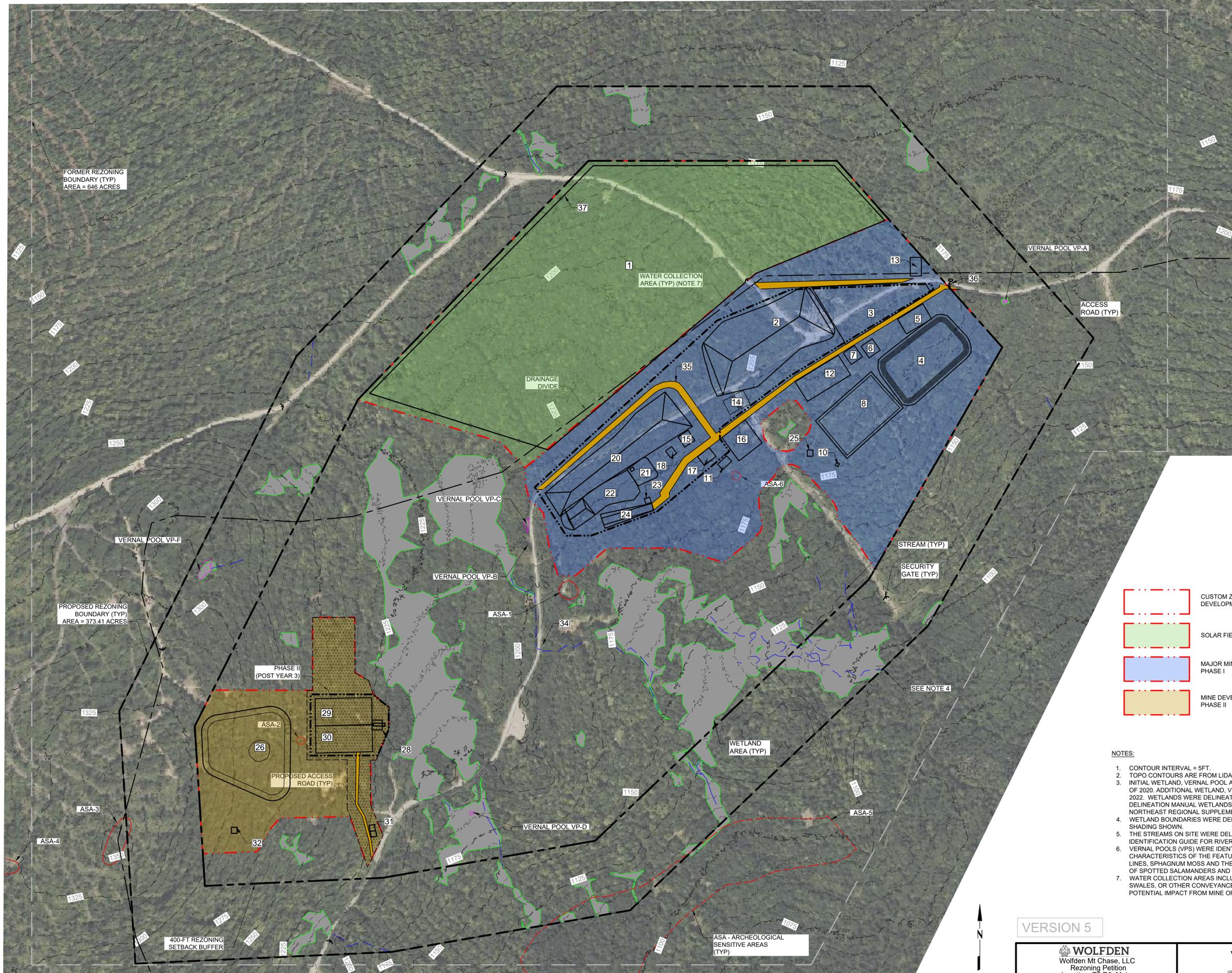
| Map ID                     | Type of Structure and Use<br>(specify if temporary) | Duration in Place if<br>Temporary<br>(specify days or<br>months) | Current<br>Exterior Dimensions<br>(LxWxH) in feet | Proposed<br>Exterior Dimensions<br>(LxWxH) in feet |       |         | Approximate Distance (In feet) of structure from nearest: |               |              |                 |         |                          |
|----------------------------|---|--|---|--|-------|---------|---|---------------|--------------|-----------------|---------|--------------------------|
|                            |   |  |   | Length   | Width | Height  | Road  | Property line | Lake or pond | River or stream | Wetland | Ocean/Coastal<br>Wetland |
|                            |   |  |   |  |       |         |   |               |              |                 |         |                          |
| <b>Existing Structures</b> |   |  |   |  |       |         |   |               |              |                 |         |                          |
|                            | No existing structures                              | NA   | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| <b>Proposed Structures</b> |   |  |   |  |       |         |   |               |              |                 |         |                          |
| 1                          | Solar Facility                                      | 15 years plus  | NA  | 2290   | 885   | 5 to 8  | 0   | 430           | 3150         | 150             | 80      | NA                       |
| 2                          | Low Grade Ore Storage Pad                           | 10-15 years  | NA  | 676  | 355   | 65      | 0   | 962           | 2840         | 1070            | 254     | NA                       |
| 3                          | Snow Storage  | 10-15 years  | NA  | 535  | 210   | 30      | 0   | 492           | 2726         | 850             | 392     | NA                       |
| 4                          | Pre-Treatment Water Storage Pond                    | 10-15 years  | NA  | 485  | 292   | 10      | 170   | 504           | 2339         | 470             | 260     | NA                       |
| 5                          | Water Treatment Facility                            | 10-15 years  | NA  | 160  | 92    | 30      | 118   | 560           | 2608         | 750             | 380     | NA                       |
| 6                          | Electric Substation                                 | 15 years plus  | NA  | 50   | 40    | 30      | 156   | 897           | 2633         | 930             | 540     | NA                       |
| 7                          | Back-up Power Generation (Diesel or Propane)        | 10-15 years  | NA  | 30   | 20    | 10      | 140   | 993           | 2704         | 1020            | 440     | NA                       |
| 8                          | Post-Treatment Water Storage Pond                   | 10-15 years  | NA  | 400  | 260   | 10      | 276   | 695           | 2354         | 633             | 109     | NA                       |
| NA                         | Water Recharge Area #1 (Not shown)                  | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| 10                         | Fire Water Pumphouse                                | 10-15 years  | NA  | 24   | 16    | 10      | 180   | 842           | 2338         | 570             | 230     | NA                       |
| 11                         | Sanitary Subsurface Wastewater Disposal System      | 10-15 years  | NA  | 66   | 42    | -2 to 4 | 198   | 1363          | 2790         | 760             | 300     | NA                       |
| 12                         | Parking Facility                                    | 10-15 years  | NA  | 298  | 128   | 0       | 130   | 1030          | 2620         | 930             | 144     | NA                       |
| 13                         | Warehouse   | 10-15 years  | NA  | 100  | 60    | 30      | 10  | 403           | 2788         | 940             | 465     | NA                       |
| 14                         | Office and Mine Rescue Facility                     | 10-15 years  | NA  | 84   | 100   | 20      | 0   | 1428          | 2985         | 990             | 210     | NA                       |
| 15                         | Core Shack and Storage                              | 10-15 years  | NA  | 60   | 60    | 20      | 90  | 1580          | 3020         | 920             | 450     | NA                       |
| 16                         | Laydown (Equipment/Supplies Storage)                | 10-15 years  | NA  | 157  | 155   | 0       | 10  | 1260          | 2755         | 753             | 100     | NA                       |
| 17                         | Maintenance Shop                                    | 10-15 years  | NA  | 80   | 60    | 30      | 230   | 1438          | 2870         | 810             | 370     | NA                       |
| 18                         | Equipment Fueling Station                           | 10-15 years  | NA  | 50   | 40    | 12      | 132   | 1622          | 3060         | 880             | 550     | NA                       |
| NA                         | Water Recharge Area #2 (Not shown)                  | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| 20                         | Waste Rock Storage Pad #1                           | 10-15 years  | NA  | 850  | 192   | 50      | 0   | 1463          | 3080         | 410             | 220     | NA                       |
| 21                         | Backfill Plant                                      | 10-15 years  | NA  | 50   | 50    | 20      | 122   | 1707          | 3080         | 840             | 500     | NA                       |
| 22                         | Ore (Mill Feed) Storage Pad #1                      | 10-15 years  | NA  | 436  | 125   | 35      | 140   | 1568          | 3140         | 390             | 270     | NA                       |
| 23                         | Blast Shack   | 10-15 years  | NA  | 30   | 30    | 12      | 322   | 1524          | 3070         | 690             | 360     | NA                       |
| 24                         | Mine Access (Portal)                                | 10-15 years  | NA  | 280  | 60    | -32     | 265   | 1465          | 3030         | 520             | 190     | NA                       |
| 25                         | East Ventilation Raise                              | 10-15 years  | NA  | 10   | 10    | 10      | 110   | 992           | 2490         | 640             | 130     | NA                       |
| 26                         | Organics Storage                                    | 10-15 years  | NA  | 456  | 425   | 15      | 566   | 430           | 4600         | 782             | 190     | NA                       |
| NA                         | Water Recharge Area #3 (Not shown)                  | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| 28                         | Headframe and Hoist                                 | 10-15 years  | NA  | 62   | 52    | 120     | 438   | 1178          | 4088         | 500             | 152     | NA                       |
| 29                         | Ore (Mill Feed) Storage Pad #2                      | 10-15 years  | NA  | 305  | 145   | 40      | 490   | 916           | 3930         | 560             | 110     | NA                       |
| 30                         | Waste Rock Storage Pad #2                           | 10-15 years  | NA  | 305  | 145   | 40      | 360   | 982           | 3900         | 460             | 110     | NA                       |
| 31                         | Temporary Explosives Storage                        | 10-15 years  | NA  | 60   | 30    | 8       | 30  | 620           | 3820         | 390             | 270     | NA                       |
| 32                         | West Ventilation Raise                              | 10-15 years  | NA  | 10   | 10    | 10      | 695   | 558           | 4600         | 750             | 230     | NA                       |
| NA                         | Water Recharge Area #4 (Not shown)                  | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| 36                         | Security Guard House/Gate                           | 10-15 years  | NA  | 20   | 10    | 10      | 0   | 356           | 2710         | 800             | 290     | NA                       |
| 37                         | Security fencing                                    | 10-15 years  | NA  | NA   | NA    | 6       | 0   | 417           | 3195         | 180             | 113     | NA                       |
| NA                         | Water Recharge Area #5 (Not shown)                  | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| NA                         | Water Recharge Area #6 (Not shown)                  | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |
| NA                         | Underground Mining Facilities (Not shown)           | 10-15 years  | NA  | NA   | NA    | NA      | NA  | NA            | NA           | NA              | NA      | NA                       |

**Appendix D: Figure 27-1, Custom Zone Development  
Areas, Dated April 13, 2023**

| Map ID | Facility Name                                |
|--------|--|
| 1      | SOLAR FACILITY (APPROX)                      |
| 2      | LOW GRADE ORE STORAGE PAD                    |
| 3      | SNOW STORAGE                                 |
| 4      | PRE-TREATMENT WATER STORAGE POND             |
| 5      | WATER TREATMENT FACILITY                     |
| 6      | ELECTRICAL SUBSTATION                        |
| 7      | BACK-UP POWER GENERATION (DIESEL OR PROPANE) |
| 8      | POST-TREATMENT WATER STORAGE POND            |
| NA     | WATER RECHARGE AREA #1 (NOT SHOWN)           |
| 10     | FIRE WATER PUMPHOUSE                         |
| 11     | SANITARY SUBSURFACE DISPOSAL SYSTEM          |
| 12     | PARKING FACILITY                             |
| 13     | WAREHOUSE                                    |
| 14     | OFFICES AND MINE RESCUE FACILITY             |
| 15     | CORE SHACK AND STORAGE                       |
| 16     | LAYDOWN (EQUIPMENT/SUPPLIES STORAGE)         |
| 17     | MAINTENANCE SHOP                             |
| 18     | EQUIPMENT FUELING STATION                    |
| NA     | WATER RECHARGE AREA #2 (NOT SHOWN)           |
| 20     | WASTE ROCK STORAGE PAD #1                    |
| 21     | BACKFILL PLANT                               |
| 22     | ORE (MILL FEED) STORAGE PAD #1               |
| 23     | BLAST SHACK                                  |
| 24     | MINE ACCESS (PORTAL)                         |
| 25     | EAST VENTILATION RAISE                       |
| 26     | ORGANICS STORAGE                             |
| NA     | WATER RECHARGE AREA #3 (NOT SHOWN)           |
| 28     | HEADFRAME AND HOIST                          |
| 29     | ORE (MILL FEED) STORAGE PAD #2               |
| 30     | WASTE ROCK PAD #2                            |
| 31     | TEMPORARY EXPLOSIVES STORAGE                 |
| 32     | WEST VENTILATION RAISE                       |
| NA     | WATER RECHARGE AREA #4 (NOT SHOWN)           |
| 34     | EXISTING SITE ROAD                           |
| 35     | PROPOSED SITE ROAD                           |
| 36     | SECURITY GUARD HOUSE/GATE                    |
| 37     | SECURITY FENCING                             |
| NA     | WATER RECHARGE AREA #5 (NOT SHOWN)           |
| NA     | WATER RECHARGE AREA #6 (NOT SHOWN)           |
| NA     | UNDERGROUND MINING FACILITIES (NOT SHOWN)    |

| LEGEND:    |                                     |
|------------|-------------------------------------|
| ---1125--- | MAJOR CONTOURS                      |
| ---1124--- | MINOR CONTOURS                      |
| ---        | STREAM                              |
| ---        | EXISTING SITE ROAD                  |
| ---        | VERNAL POOLS                        |
| ---        | ASA - ARCHEOLOGICAL SENSITIVE AREAS |
| ---        | 400-FOOT REZONING SETBACK BUFFER    |
| ---        | PROPOSED REZONING                   |
| ---        | OLD REZONING                        |
| ---        | WETLAND                             |
| ---        | FACILITIES DESIGN                   |
| ---        | WATER COLLECTION AREA               |
| ---        | PHASE II (POST YEAR)                |
| ---        | PROPOSED SITE ROAD                  |
| ---        | DRAINAGE DIVIDE                     |
| ---        | SECURITY FENCE                      |
| ---        | SECURITY GATE                       |
| ---        | CUSTOM ZONE DEVELOPMENT AREAS       |
| ---        | SOLAR FIELD AREA                    |
| ---        | MAJOR MINE DEVELOPMENT PHASE I      |
| ---        | MINE DEVELOPMENT PHASE II           |

- NOTES:**
1. CONTOUR INTERVAL = 5FT.
  2. TOPO CONTOURS ARE FROM LIDAR DATA (NOAA.GOV), MARCH 2021.
  3. INITIAL WETLAND, VERNAL POOL AND STREAM DATA WERE COLLECTED BY WOOD AND OTHERS IN MAY-JUNE OF 2020. ADDITIONAL WETLAND, VERNAL POOL, AND STREAM DATA WERE COLLECTED BY STANTEC-JUNE OF 2022. WETLANDS WERE DELINEATED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL WETLANDS TECHNICAL REPORT (Y-87-1) AND THE NORTH CENTRAL AND THE NORTHEAST REGIONAL SUPPLEMENT (ERCICEL TR-12-1).
  4. WETLAND BOUNDARIES WERE DELINEATED WITHIN THE REZONE BOUNDARY AND MAY CONTINUE BEYOND THE SHADING SHOWN.
  5. THE STREAMS ON SITE WERE DELINEATED FOLLOWING THE NATURAL RESOURCE PROTECTION ACT (NRPA) IDENTIFICATION GUIDE FOR RIVERS, STREAMS, AND BROOKS (DANIELSON, 2018).
  6. VERNAL POOLS (VPS) WERE IDENTIFIED ON MAY 17, MAY 18, AND MAY 28, 2020, BASED ON PHYSICAL CHARACTERISTICS OF THE FEATURES INCLUDING ISOLATED WATER BODIES, WATER STAINED LEAVES, WATER LINES, SPHAGNUM MOSS AND THE PRESENCE OF HYDROPHYTIC VEGETATION AS WELL AS EGG MASS COUNTS OF SPOTTED SALAMANDERS AND WOOD FROGS WERE COLLECTED.
  7. WATER COLLECTION AREAS INCLUDE AREAS WHERE STORMWATER RUNOFF IS COLLECTED BY BERMS, SWALES, OR OTHER CONVEYANCE METHODS AND TREATED AT THE WATER TREATMENT FACILITY DUE TO POTENTIAL IMPACT FROM MINE OPERATIONS.



VERSION 5



Prepared/Date: WJW 4/13/23  
Checked/Date: MAP 4/13/23

**WOLF DEN**  
Wolfden Mt Chase, LLC  
Rezoning Petition  
Location: T6 R6, Maine

**wsp**  
USA Earth & Environmental  
511 Congress Street, Suite 200, Portland, ME 04112 (207) 775-5401

CUSTOM ZONE DEVELOPMENT AREAS  
Project 3617-22-7547  
Figure 27-1

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# **ATTACHMENT B**

# MEMO

## SOCIO-ECONOMICS OF THE PICKET MINE PROJECT - RESPONSES TO RACHEL BOUVIER'S LETTER TO THE LUPC

TO: JEREMY OULETTE, WOLFDEN RESOURCES CORPORATION  
FROM: MICHAEL LEVERT, STEPWISE DATA RESEARCH  
DATE: JULY 31, 2023

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This memo is in response to Rachel Bouvier's letter to Tim Carr at the Maine Land Use Planning Commission dated July 10, 2023 which detailed Ms. Bouvier's comments on Wolfden's socio-economic report. Our general reaction to Ms. Bouvier's comments is positive: we appreciate Ms. Bouvier's careful and thoughtful reading of the socio-economic report; we especially appreciate Ms. Bouvier's acknowledgements that "the data, methodology, and region identified are appropriate" and her overall conclusion that, "the socioeconomic analysis, conducted by Stepwise Data Research in Attachment 10 - A of Wolfden's petition, is largely complete and satisfies the basic requirements as delineated in Appendix A to this memo." With several minor exceptions, we agree with most of Ms. Bouvier's comments and find her critique to be either a fair critique of economic impact models in general, and not of our methodology or process specifically, or a preference for a sharper emphasis on certain assumptions or caveats inherent in the economic modeling. Our responses to Ms. Bouvier's letter are organized by the eight summary points that Ms. Bouvier includes in her letter in the section titled Discussion and Recommendations (page 6).

### Stepwise Responses to Rachel Bouvier's Letter

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**Local Hiring (page 6 of Ms. Bouvier's letter):** We agree with Ms. Bouvier's overarching statement that "the bulk of the economic benefits claimed by the analysis hinges on whether their [Wolfden's] local hiring efforts are successful." We addressed this point in the socio-economics report in our section on Caveats and Limitations:

*"If less spending occurs than projected, or if a higher portion of spending goes to businesses or workers outside of the region, the economic impact will be less than the estimates contained in this report. Conversely, if more spending occurs, or if more spending goes to local businesses or workers, the economic impact will be greater. The primary constraint to hiring local employees will be the skills of workers in the labor market. If qualified laborers are lacking in the economic region, the Project will have to import labor from elsewhere. Unless workers permanently relocate to the region, this would reduce the economic benefit to the Pickett region." Attach. 10-A at 28.*

However, we would clarify that our analysis did not, as Ms. Bouvier states, “assume in its economic impact analysis that 100 percent of the labor in the operational phase will be from the local area.” On page 22 of the socioeconomic analysis, we note that:

*“In all, Wolfden projects to spend roughly \$200 million on employee compensation over the fourteen years of the Project (Table 19). To be consistent with the RIMS II economic impact methodology, compensation for employees hired from outside of the economic region and the portion of compensation for employee benefits and taxes are excluded from the economic modeling. This results in an input to the economic model of \$119 million in total wages....”*

In our economic modeling, two steps were taken to adjust downward Wolfden’s total planned compensation of \$200m for employees. First, and most relevant to Ms. Bouvier’s critique, the \$200m projection was adjusted by an assumption of how much of that compensation would be spent on labor procured locally. In order to be as accurate as possible, these adjustments were made separately for each budget item and ranged from an assumption of 0% locally procured labor to 100%. In total, the adjustments resulted in an estimate of spending on local labor of \$154m, an explicit exclusion of roughly 23% of compensation spending that would not be spent locally. This local spending estimate was then further reduced to exclude the cost of employee benefits (estimated at 30% of total compensation). These adjustments were also made for each budget item related to projected employee compensation. In aggregate, the calculation of compensation spending was as follows:

$$\begin{aligned} \$200m \text{ projected total compensation spending} * 77\% \text{ local labor} &= \$154m \text{ spending on local labor} \\ \$154m \text{ spending on local labor} / 1.3 \text{ benefits ratio} &= \$119m. \end{aligned}$$

The \$119m total – which excludes compensation on imported labor and benefits - was then input to the economic model.

(As an aside, the most important reason for excluding employee benefits from an economic model relates to retirement benefits which are generally spent in the local region sometime in the future. Our exclusion of 30% of compensation spending is overly conservative as it also excludes certain non-retirement benefits that are spent today and are appropriate to include in an economic model.)

**Jobs created versus jobs supported (page 7):** We agree with Ms. Bouvier’s comment that “[a] common error made by many users of input-output analysis is to present the results in terms of jobs or output “created”, rather than in terms of jobs or output “supported.”” In our experience, we generally see the errors Ms. Bouvier cites when analysts conduct economic impact studies on industries that already exist in the region. The US Bureau of Economic Analysis, which creates and maintains the RIMS II model that was used in the socio-economic analysis, distinguishes these types of analysis by referring to them as “contribution studies.” In these cases, there is no external shock to the regional economy or net new economic activity, and it is therefore inaccurate, as Ms. Bouvier notes, to frame the impact as “jobs created.” However, the analysis of the Pickett Project is different from these types of contribution studies in that the proposed project does not currently exist in the region. While many of the skillsets in construction and other fields do exist in the region today, if the project were to proceed it would bring new investment and economic activity to the region that is not currently here, today. In this sense, it is not a “contribution study” because Wolfden’s investment would expand the size of the region’s economy for the life of the project – and in doing so would create new jobs and economic activity in the region.

Ms. Bouvier’s notes elsewhere in her letter that the project’s impact on employment will include both full- or part-time jobs (and not just full-time jobs). We agree with this statement and tried to make this point clear in the socio-economic report. For example, in the report’s section on indirect

and induced economic impacts, we state that the job-years presented include both full- and part-time jobs (Attach. 10-A, at 24). And in Appendices G and H that describe our methodology in more detail, we state that “RIMS II jobs multipliers represent the number of part- and full-time jobs created across all industries...” ((Attach. 10-A, Appendix G at 62) and “Employment includes both full- and part-time jobs.” (Attach. 10-A, Appendix H at 63).

**Output vs. value added (page 7):** We agree with Ms. Bouvier’s statements regarding the differences between “output” and “value added.” Neither metric is intuitive to the layperson. We chose to include output instead of value-added because of our observations over the years that readers can more intuitively understand output as “business sales” than they can value-added which may be difficult to understand depending on where in the production process the firm operates. This editorial decision is one we have made with a number of recent economic impact analyses and not unique to this study. Nonetheless, we accept Ms. Bouvier’s point that value-added would have been a helpful metric to include.

**Wages for newly created positions (page 7):** We stand by our approach that compares Wolfden’s projected wages to its employees to the region’s average wages. We think this is the appropriate comparison because the economic impact of the project is being evaluated on its effect on the entire region, not just on a specific industry or occupation. In other words, whether the project will have higher wages in a specific industry (e.g., mining or construction) or in a specific occupation (e.g., as Ms. Bouvier suggest, supervisory occupations) is less important than the project’s impact is on the overall health of the region’s economy. Indeed, if our analysis only compared projected wages to the wages in a specific industry or occupation, we feel it would be criticized as being too narrow a comparison that does not address the more important comparison to wages in the region more broadly.

**Relatively long timeline (page 7):** We agree with Ms. Bouvier that the project’s long timeline injects some uncertainty into the economic modeling because the economic model used is based on the inter-industry relationships and spending in the regional economy as they exist today. Were these economic relationships to change significantly over the project’s 14-year lifespan, the results of the economic model would also change. However, as Ms. Bouvier also notes, there is really no good alternative to using an economic model based on the current structure of the economy. One could, we suppose, develop an alternative economic model based on what we think those economic relationships will be in the future. But this approach would inject as much if not more uncertainty into the results than our current approach of using a rigorous model based on the current structure of the region’s economy. We would also note that when new economic multipliers are released every two years or so, they often change only very slightly. We do agree, however, with Ms. Bouvier’s overarching point that projecting an economic impact fourteen years out does come with the added uncertainty that fundamental changes in the structure of the economy may happen within that time period.

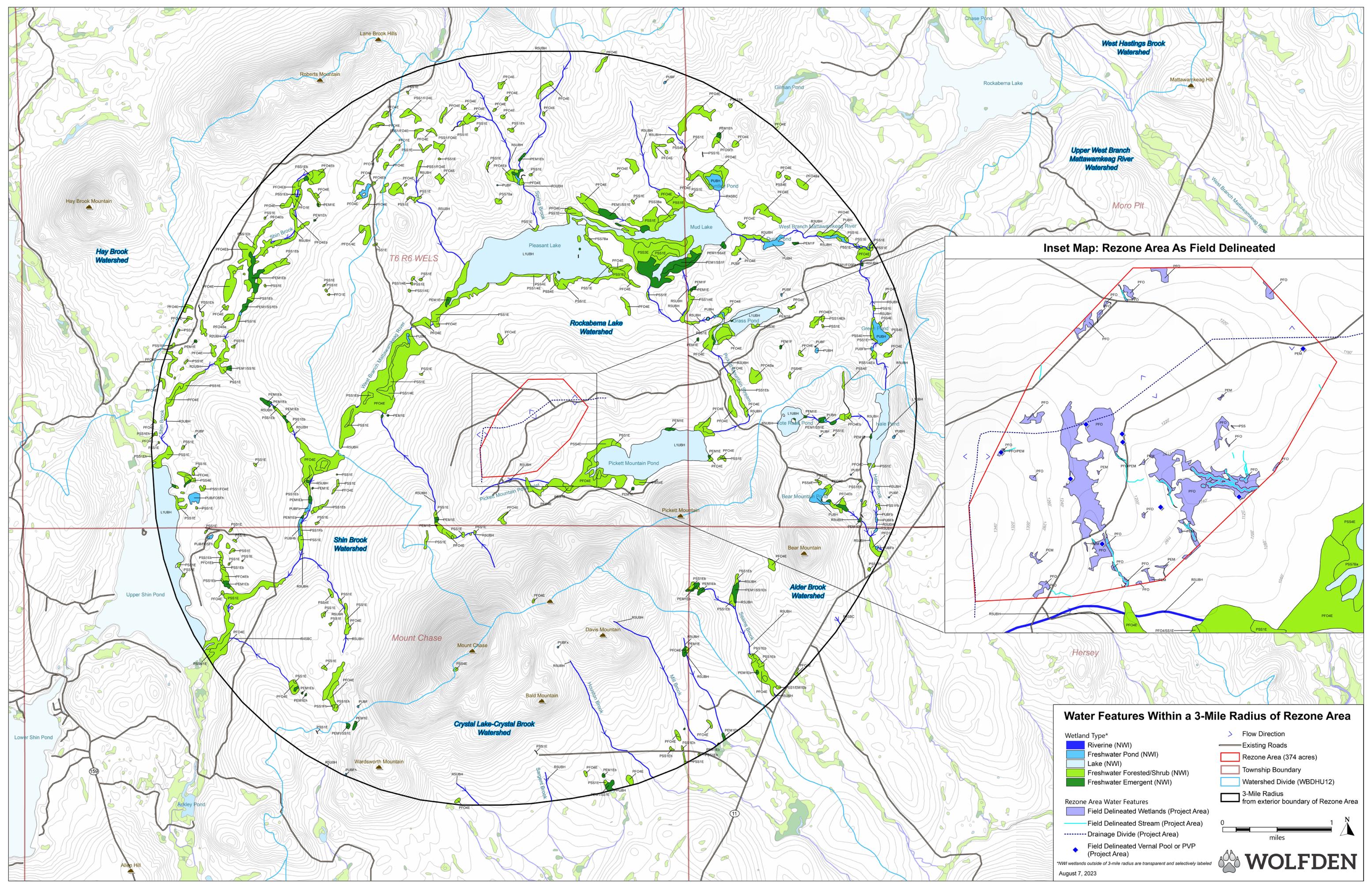
**Local consumption percentage (page 7):** Ms. Bouvier notes that the upper range of the local consumption percentages as noted in Appendix I were used in the analysis instead of the midpoint. This is true is a fair critique. However, we did not intend for Appendix I to be used to assess the range of economic impacts related to local consumption. Rather, we presented the impact of lower- or higher-than-expected local consumption in the body of the report in Table 28 in our section titled “Caveats and Limitations.” This table takes our estimate of the economic impact in terms of output, earnings, and job-years and adjusts it by +/- 20%. The resulting “low” value is a rough estimate for the project’s economic impact should actual local spending be 20% less than Wolfden’s current projection. Our intent in presenting this range in the body of the report was to be

transparent about the assumptions around local consumption (which represent Wolfden's best guess, at this point in time, but will certainly be higher or lower if the project were to proceed) and provide readers with a lower bound for the economic impact to use if they choose.

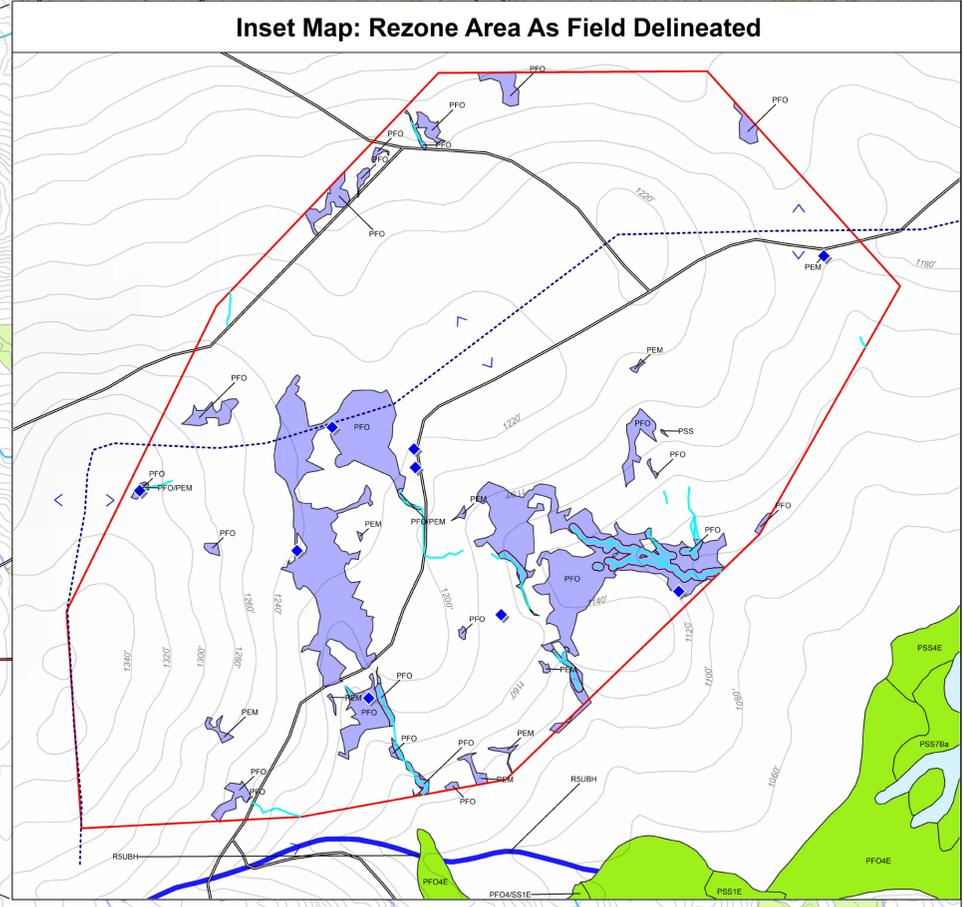
**Impacts to the housing market (page 7):** We agree with Ms. Bouvier's overarching point that the project's impact on the housing market could be larger if more labor than expected is imported to the region. However, we would make two additional points. First, if imported laborers were to settle in the area and rent or buy housing, that would likely increase the positive economic impact detailed in the socio-economic analysis. In fact, one of the state's top economic priorities is to attract new people from away to the state's labor force. Second, the region currently has high housing vacancy rates. At the time of the writing of the socio-economic report, the U.S. Census Bureau estimated that 33% and 41% of the housing stock in the Houlton and Millinocket Labor Market Areas were vacant, respectively. It is our view that the housing market could likely absorb a significant amount of new people moving to the area before leading to meaningful changes in the availability or price of housing. However, we accept Ms. Bouvier's point that the ultimate impact of the project on the housing market will vary based on the availability of local labor.

**Lack of a plan to monitor impacts (page 7):** We wholeheartedly agree with Ms. Bouvier that a plan to monitor the socio-economic impacts of the project should be created and followed. Wolfden has engaged Stepwise to develop a plan for annual monitoring and reporting of socioeconomic outputs.

# **ATTACHMENT C**



**Inset Map: Rezone Area As Field Delineated**



**Water Features Within a 3-Mile Radius of Rezone Area**

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|--|--|
| <p>Wetland Type*</p> <ul style="list-style-type: none"> <li><span style="color: blue;">█</span> Riverine (NWI)</li> <li><span style="color: lightblue;">█</span> Freshwater Pond (NWI)</li> <li><span style="color: cyan;">█</span> Lake (NWI)</li> <li><span style="color: lightgreen;">█</span> Freshwater Forested/Shrub (NWI)</li> <li><span style="color: green;">█</span> Freshwater Emergent (NWI)</li> </ul> <p>Rezone Area Water Features</p> <ul style="list-style-type: none"> <li><span style="color: purple;">█</span> Field Delineated Wetlands (Project Area)</li> <li><span style="color: blue;">█</span> Field Delineated Stream (Project Area)</li> <li><span style="border-bottom: 1px dashed black;">  </span> Drainage Divide (Project Area)</li> <li><span style="color: blue;">◆</span> Field Delineated Vernal Pool or PVP (Project Area)</li> </ul> | <ul style="list-style-type: none"> <li><span style="color: blue;">➤</span> Flow Direction</li> <li><span style="color: black;">—</span> Existing Roads</li> <li><span style="border: 2px solid red;">  </span> Rezone Area (374 acres)</li> <li><span style="border: 1px solid red;">  </span> Township Boundary</li> <li><span style="color: blue;">—</span> Watershed Divide (WBDHU12)</li> <li><span style="border: 1px solid black;">  </span> 3-Mile Radius from exterior boundary of Rezone Area</li> </ul> <p>0 <span style="display: inline-block; width: 50px; border-bottom: 1px solid black;"></span> 1<br/>miles</p> |
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